RTS® Digital Matrix Series
Intercom Systems

PAM-32
User Guide

Up to and including firmware version 1.1.1

9350-7791-000 Rev E 06/2006

Proprietary Notice

Copyright Notice

Warranty Notice

See the enclosed warranty card for further details.

Customer Support

Technical questions should be directed to:

Customer Service Department
RTS/Telex Communications, Inc.
12000 Portland Avenue South
Burnsville, MN 55337 USA
Telephone: 800-392-3497
Fax: 800-323-0498
Factory Service: 800-553-5992

Return Shipping Instructions

Customer Service Department
Telex Communications, Inc (Lincoln, NE)
Telephone: 402-467-5321
Fax: 402-467-3279
Factory Service: 800-553-5992

Please include a note in the box which supplies the company name, address, phone number, a person to contact regarding the repair, the type and quantity of equipment, a description of the problem and the serial number(s).

Shipping to the Manufacturer

All shipments of product should be made via UPS Ground, prepaid (you may request from Factory Service a different shipment method). Any shipment upgrades will be paid by the customer. The equipment should be shipped in the original packing carton. If the original carton is not available, use any suitable container that is rigid and of adequate size. If a substitute container is used, the queipment should be wrapped in paper and surrounded with at least four (4) inches of excelsior or similar shock-absorbing material. All shipments must be sent to the following address and must include the Proof of Purchase for warranty repair. Upon completion of any repair the equipment will be returned via United Parcel Service or specified shipper, collect.

Factory Service Department
Telex Communications, Inc.
8601 Cornhusker Hwy.
Lincoln, NE 68507 U.S.A.
Attn: Service

This package should include the following:

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CHAPTER 1

Introduction

PAM-32 Production Audio Monitor

General Description

The RTS™ Model PAM-32 keypanel fits in a standard 19” rack and is two rack spaces high. It has 32 push button keys; 30 of which are monitoring inputs; one key for copying from alpha scroll lists; and one is for headset/speaker. It adds significant new features such as digital signal processing and binaural headset operation with left/right assignment of audio signals. The PAM-32 also introduces large, super-bright, long-life fluorescent displays with adjustable brightness control, making it suitable for all types of ambient lighting from direct sunlight to darkness.

Features

- Super-bright, fluorescent displays: Provides much better visibility and usable life than LCD displays. A display saver mode with programmable scrolling message extends display life and conserves power during periods of inactivity.
- 32 Push Button Keys, with 30 keys available for monitoring inputs.
- Only 3.54 inches (90 mm) deep behind the front panel (approximately 5.11 inches/ 130mm with connectors). Perfect for consoles, OB vans, etc.
- Digital Signal Processing (DSP) adds new mixing and metering capabilities.
- Binaural (1/4” phone/stereo plug) Headset Connector. Works with the DSP mixing feature. Lets you independently assign intercom, and program audio to left or right headphone.
- Easy upgrades. Firmware update can be received via the Internet, for example, and then downloaded to the PAM-32 via the intercom connection. Ready for future communication enhancements, including coax, fiber, and ISDN.

Connections

Keypanel Connections

Connections are identical for each keypanel.

1. **Intercom Connection**: Use a standard RJ-12 or DB-9 intercom cable (Figures 1 and 2). Connect from the FRAME connector to an available intercom port.
2. **EXP Connect**:
3. **LCP Connect**:
4. **Auxiliary Input Connection**: Connect an auxiliary audio input to the AUX INPUT connector on the backpanel. This is used as a second input from the matrix during split operation.

AUX Input Specifications:

Input level: 0 - +8dB
Connector: 3-pin XLR Female

Pin 1: Shield
Pin 2: Audio +
Pin 3: Audio -

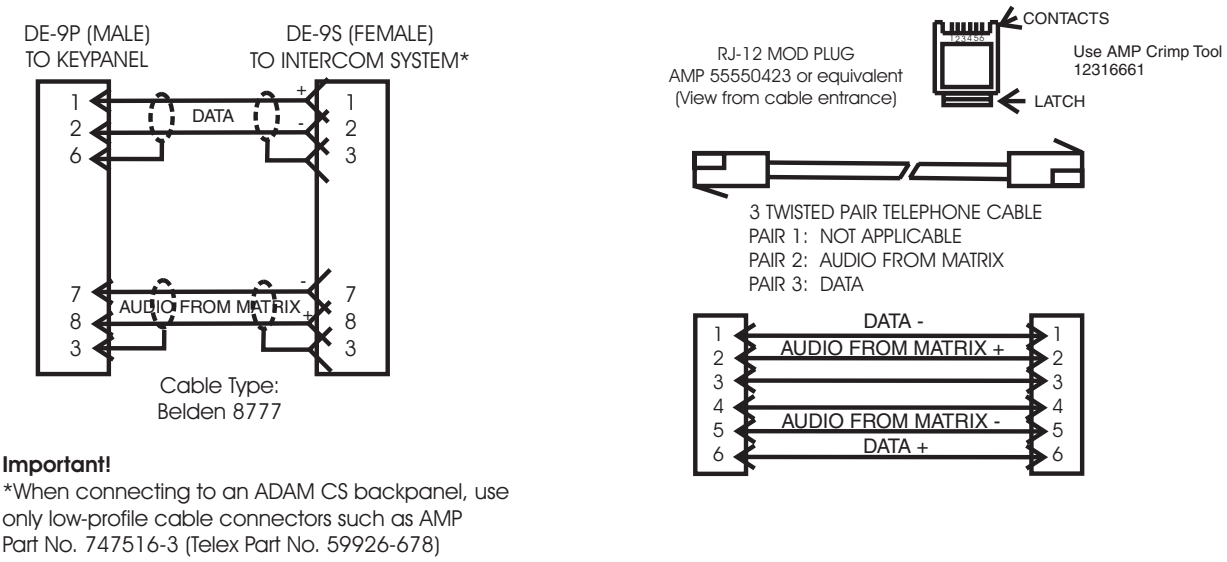


FIGURE 1. 9-pin intercom cable wiring diagram and RJ-12 intercom wiring diagram (PAM-32)

5. **Headphone Connector Specification**:

Connector Type: 3-conductor, 1/4 inch plug

Tip:	Left
Ring:	Right
Sleeve:	Common

6. Power Supply Connector: The power supply input operates between 100-240 VAC, 50/60Hz.

Specifications

The PAM-32 is a 32-key (push button) monitor panel, with both headset and speaker outputs.

General

AC Supply: External, switching type, 100-240 VAC, 50/60 Hz with locking DIN connector for attachment to the keypanel and universal IEC connector for connection to various AC mains cords.

Environmental

Storage

-40°C to 60°C (-40°F to 140°F)

Operating

-10°C to 41°C (14°F to 105.8°F)

Dimensions

19” wide x 2RU x 3.5” (90mm) deep

Physical

Height

2 RU

Mounting Depth Needed (approx.)

7”

Headphone Amplifier

Max Voltage Gain

200dB

Frequency Response

100Hz to 10kHz, ±2dB

Headphone Impedance

8 to 600 ohms

Output Power

160mW into 50 ohms

Output Voltage Level

8 volts peak to peak (max.)

Sidetone Range

25dB

Speaker Amplifier and Speaker

Frequency Response

100Hz to 10kHz, ±2dB

Output Power (per amplifier)

11.3 volts peak to peak (max.)

Volume Control Range

30dB

Speaker Rating

4 watts max.

Intercom Inputs (Side A)

Input

Nominal

+8dBu

Peak

±20dBu max.

Aux Inputs (Side B)

Input Level

+8dBu nominal

Connectors (other connector options available)

Headset Connector Type: 3-circuit, 1/4” phone jack with threaded metal bushing

Pin Out

Pin 1 ..... Audio side A+
Pin 2 ..... Audio side B+
Pin 3 ..... Ground

Power Input Connector

Type:	5-pin locking DIN
Pin Out	
Pin 1	Common
Pin 2	Common
Pin 3	+5 VDC, 1.50A max.
Pin 4	-15 VDC, 0.150A max.
Pin 5	+15 VDC, 0.5A max.

Intercom Connectors: Parallel-wired DE9S and RJ-12 Connectors

Type	DE9S
Pin Out	
Pin 1	Data +
Pin 2	Data -
Pin 3	Audio In (from Matrix) shield
Pin 4	Audio Out (to Matrix) +
Pin 5	Audio Out (to Matrix) -
Pin 6	Data Shield
Pin 7	Audio In (from Matrix) -
Pin 8	Audio In (from Matrix) +
Pin 9	Audio Out (to Matrix) shield

Type	RJ-12
Pin Out	
Pin 1	Data -
Pin 2	Audio In (from Matrix) -
Pin 3	Audio Out (to Matrix) +
Pin 4	Audio Out (to Matrix) -
Pin 5	Audio In (from Matrix) -
Pin 6	Data +

Expansion Connector

Type	RJ-45

LCP Connector

Type	RJ-45

Foot Switch / Speaker

Type	9-pin Male D-Sub
Pin Out	
Pin 1	Ground
Pin 2	Speaker minus (-)
Pin 3	Ground
Pin 4	No Connection
Pin 5	Foot Switch
Pin 6	Speaker plus (+)
Pin 7	No Connection
Pin 8	No Connection
Pin 9	Ground

Matrix Out Balanced Output

Type	3-pin Male XLR
Pin Out	
Pin 1	Shield (circuit common)
Pin 2	Audio output +
Pin 3	Audio output -

NOTE: Output level +8dBu nominal (balanced).

Option DIP Switch Settings

Switch 1: Latch Enable/Disable

Default Setting: Open: Enable

Description: An intercom key can always be turned ON for momentary listening by pressing and holding the key during the monitoring. There is also an electronic latching feature that lets you tap intercom keys to9 turn them ON or OFF. This permits convenient hands-free monitoring. However it can also result in a listen circuit being left ON unintentionally.

NOTE: DIP switch 1 disable latching for the entire keypanel. If you just need to disable latching for selected keys, leave DIP switch 1 in the "open" position. Then, disable latching for the desired keys using the "D" check boxes in the Keypanels/Ports setup screen in AZedit.

Switch 2: Key Gain Enable/Disable

Default Setting: Open: Enable

Description: Enables or disables the Key Gain item in the Key Assign menu.

Switch 3: Screen Saver Enable/Disable

Default Setting: Open: Enable

Description: With Screen Saver enabled, the PAM-32 will shut off the display and enter a low-power state after a few minutes of inactivity. The display reactivates instantaneously on incoming call or when the keypanel operator actuates any control. As with all fluorescent and back lit LCD displays, some dimming will occur after many years of operation. Using the screen saver helps maximize the display life.

Switch 4: Call Tally

Default Setting: Open: 15 Second Flash

Description Whenever there is an incoming call and there is a key assigned to the caller, the talk LED next to the key will flash. The flash can be set for a 15 second time-out, or until the caller's key is released.

Switch 5: Split Panel Operation

Default Setting:

Description: In this mode, the panel replies to the intercom at two separate polling IDS. For example, if the polling ID is set to6, in split mode, the PAM-32 will respond at IDs6 and 7. Keys on the two sides of the panel operate independently. With this mode, the audio for the second intercom port could see the AUX IN of the keypanel, and the audio for the two ports could be routed separately to the left and right headset channels.

Switch 6:	Standard / Alternate Keypad Sequence
Default Setting:	
Description:	For Standard Keypad Sequences (DIP 6 Open) Listen Key ON - Solid Green LED Listen Key Locked ON (in “one” mode) - Solid Red LED Listen Key Held ON, doing ISO (in “many” mode) - Solid Red LED In-use Tally (e.g. IFB being interrupted) - Solid Red LED Busy Tally (e.g. no trunks available) Flashing Red LED **NOTE**: Tallies also tally on the alphanumeric display. For the Headset Key (key 32) the upper LED is Solid Green if the headset is selected. For Alternate Keypad Sequences (DIP 6 Closed) Listen Key ON - Solid Green LED Listen Key Locked ON (in “one” mode): Solid Red LED Listen Key Held ON, doing ISO (in “many” mode) - Solid Red LED **NOTE**: Tallies also tally on the alphanumeric display. For the Headset Key, (key 32) the LED is Solid LED is Solid RED if the headset is selected.
Switch 7:	Reserved for Debugging Purposes “Must be left *OPEN*
Switch 8:	Normal / Forced Firmware Download
Default Setting	Open: Normal Operation
Description	In this mode, you can choose to run in normal mode or in forced firmware download. This means that once the keypanel is restarted, it will automatically look for a copy of the latest firmware to download.

Power Up

Turn ON the power switch. Asterisks may briefly appear in the alpha numeric displays. After a few moments, the displays should show listen key assignments (or dashes where there are not assignments). If either keypanel continues to displays asterisks, it cannot establish communications with the intercom system. In this case, check the intercom cable and connections.

At power-up, the alphanumeric displays will first show asterisks (****). After several seconds, the intercom key assignments will display.

NOTE: If the keypanel cannot establish communication with the intercom system, all alphanumeric displays will continue to show asterisks. Check the keypanel to Matrix cable connection if this occurs. If the keypanel loses communications with the intercom, it will not revert ****’s for 30 seconds.

Setup Menu

Before using each keypanel, you must set the keypanel address.

Address Switch Setting - General Information

In Zeus, ADAM CS, and ADAM Intercom Systems, intercom ports are arranged in groups of eight. All ports in a group share a common data port. Each PAM-32 keypanel is uniquely identified on the data port by the setting of it Address switch. The

method of determining the proper Address switch setting varies for each intercom system. Use the method for your intercom system as described below. Then set the white point on the Address switch to point to the correct setting.

Address Setting for Zeus

Intercom port connectors on the Zeus back panel are arranged in three groups of eight intercom ports. For each group, intercom port connectors are labeled ID1, ID2, etc. When you connect a PAM-32 keypanel to Zeus, set the Address switch to match the corresponding ID number on the Zeus backpanel. Note, the address switch setting 0 and 9 through F are not used.

Address for ADAM CS

Each Audio I/O card contains 1 group of intercom ports. However, the method of breaking out the groups depends on the type of connectors on the back panel.

ADAM CS with RJ-12 or DB-9 back panel:

The intercom port connectors are arranged in groups of 8. The first connector at the left for each group is Address 1, the next is Address 2, and so forth.

NOTE: Address switch settings 0, and 9 through F are not used.

Address Setting for Adam

Each Audio I/O card contains 1 group of 8 intercom ports. Determine the address setting from Figure X. To use the table, locate the intercom port number to which the PAM-32 Address will be connected. Then, read across the Address column to find the Address number.

PAM-32 Addressing

A rotary switch is used to indicate the logical port address the key panel is to use when communicating with the Matrix. The switch is read continuously through polling by the matrix. If the port address is changed, the new address is not seen on a powered unit until the power is recycled.

NOTE: The Address port, by default, is shipped with an invalid address to ensure that there are no conflicts with existing keypanels. It is important to set the address port for the KP-32 keypanel for it to function properly.

In Zeus, ADAM CS, and ADAM intercom system, intercom ports are arranged in groups of 8. Within each group, each keypanel is uniquely identified by its Address switch setting. In the below example, the Address switch has a white pointer pointing at position 7, indicating port 7.

Operation

Operation is identical for each keypanel.

Listen Key Operation

ONE Mode: ONE mode gives preference to a single active key. Tap a key to turn it on. The green LED lights. When you tap another key, the first key turns off and the second key turns on.

MANY Mode: MANY mode gives preference to many keys being on at once. Tap any key to latch it in the ON position. The green LED will be list while the key is ON. You can tap several keys to latch them on.

Settings for ADDR	Intercom Port Numbers																								
1	1	9	17	25	33	41	49	57	65	73	81	89	97	105	113	121	129	137	145	153	161	169	177	185	193
2	2	10	18	26	34	42	50	58	66	74	82	90	98	106	114	122	130	138	146	154	162	170	178	186	194
3	3	11	19	27	35	43	51	59	67	75	83	91	99	107	115	123	131	139	147	155	163	171	179	187	195
4	4	12	20	28	36	44	52	60	68	76	84	92	100	108	116	124	132	140	148	156	164	172	180	188	196
5	5	13	21	29	37	45	53	61	69	77	85	93	101	109	117	125	133	141	149	157	165	173	181	189	197
6	6	14	22	30	38	46	54	62	70	78	86	94	102	110	118	126	134	142	150	158	166	174	182	190	198
7	7	15	23	31	39	47	55	63	71	79	87	95	103	111	119	127	135	143	151	159	167	175	183	191	199
8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160	168	176	184	192	200
1	201	209	217	225	233	241	249	257	265	273	281	289	297	305	313	321	329	337	345	353	361	369	377	385	393
2	202	210	218	226	234	242	250	258	266	274	282	290	298	306	314	322	330	338	346	354	362	370	378	386	394
3	203	211	219	227	235	243	251	259	267	274	283	291	299	307	315	323	331	339	347	355	363	371	379	387	395
4	204	212	220	228	236	244	252	260	268	275	284	292	300	308	316	324	332	340	348	356	364	372	380	388	396
5	205	213	221	229	237	245	253	261	269	276	285	293	301	309	317	325	333	341	349	357	365	373	381	389	397
6	206	214	222	230	238	246	254	262	270	277	286	294	302	310	318	326	334	342	350	358	366	374	382	390	398
7	207	215	223	231	239	247	255	263	271	278	287	295	303	311	319	327	335	343	351	359	367	375	383	391	399
8	208	216	224	232	240	248	256	264	272	279	288	296	304	312	320	328	336	344	352	360	368	376	384	392	400
1	401	409	417	425	433	441	449	457	465	473	481	489	497	505	513	521	529	537	545	553	561	569	577	585	593
2	402	410	418	426	434	442	450	458	466	474	482	490	498	506	514	522	530	538	546	554	562	570	578	586	594
3	403	411	419	427	435	443	451	459	467	475	483	491	499	507	515	523	531	539	547	555	563	571	579	587	595
4	404	412	420	428	436	444	452	460	468	476	484	492	500	508	516	524	532	540	548	556	564	572	580	588	596
5	405	413	421	429	437	445	453	461	469	477	485	493	501	509	517	525	533	541	549	557	565	573	581	589	597
6	406	414	422	430	438	446	454	462	470	478	486	494	502	510	518	526	534	542	550	558	566	574	582	590	598
7	407	415	423	431	439	447	455	463	471	479	487	495	503	511	519	527	535	543	551	559	567	575	583	591	599
8	408	416	424	432	440	448	456	464	472	480	488	496	504	512	520	528	536	544	552	560	568	576	584	592	600
1	601	609	617	625	633	641	649	657	665	673	681	689	697	705	713	721	729	737	745	753	761	769	777	785	793
2	602	610	618	626	634	642	650	658	666	674	682	690	698	706	714	722	730	738	746	754	762	770	778	786	794
3	603	611	619	627	635	643	651	659	667	675	683	691	699	707	715	723	731	739	747	755	763	771	779	787	795
4	604	612	620	628	636	644	652	660	668	676	684	692	700	708	716	724	732	740	748	756	764	772	780	788	796
5	605	613	621	629	637	645	653	661	669	677	685	693	701	709	717	725	733	741	749	757	765	773	781	789	797
6	606	614	622	630	638	646	654	662	670	678	686	694	702	710	718	726	734	742	750	758	766	774	782	790	798
7	607	615	623	631	639	647	655	663	671	679	687	695	703	711	719	727	735	743	751	759	767	775	783	791	799
8	608	616	624	632	640	648	656	664	672	680	688	696	704	712	720	728	736	744	752	760	768	776	784	792	800

CHAPTER 3

Basic Operation

Screen Saver Operation

If the PAM-32 is set for screen saver operation, the alpha numeric display automatically shuts off after a user defined period of inactivity. The display reactivates on incoming call or when the keypanel operator actuates any control. DIP switch 3 enables and disables the screen saver operation.

NOTE: You can override the normal time-out period for the screen saver operation and immediately place the keypanel in screen saver mode.

Selecting Headset or Speaker

Tap the Headset/Vol. Sel. key. The Vol. Sel. display alternates between Hdst and Spkr with each key tap. The Headset LED lights when the headset is selected and is off when the speaker is selected.

Listen Volume Adjustments

By default, the Vol. control adjusts the listen volume for the speaker or headset, whichever appears in the Vol. Sel. display. The level of auxiliary program inputs 1 & 2 (if no GPI/O board is present and Aux inputs are enabled) and the level of incoming audios from the intercom matrix can be adjusted. To adjust a level, press the Vol. Sel. button until the desired source appears in the Vol. Sel. display (Aux 1, Aux 2, or ICOM). Then, use the Vol. control to adjust the listen volume. The Vol. control defaults back to the speaker or headset after about one minute of inactivity of the control. The minimum volume level for either the keypanel speaker or headset may be adjusted.

NOTE: You can save the volume adjustments to be the power-up defaults using “Service Menu, Save Cfg”.

Intercom Keys and Displays

Alphanumeric Display Indications for Intercom Keys

Upper Case Letters: Upper case letters indicate keys that have an assignment.
Dashes ----: Dashes indicate a key that has no talk or listen assignment.
Flashing Alphanumeric Display: This means the key is activated to listen to an IFB, ISO or TIF.

NOTE: The flashing alphanumeric display for TIF keys, remote IFB keys, and remote ISO keys can be disabled by placing a check mark next to “Don’t generate tallies for TIF and trunk use” in AZedit (Options menu, Intercom Configuration, Options Tab).

CHAPTER 4

PAM-32 Menu System

Menu System, Menu Access

1. Clear all names from the Call Waiting display (if not clear) by tapping one or more time on the Call waiting key.
2. Tap **MENU** to activate the menu system.
3. Press the ⌋⌋ to scroll forward through the list of menus. Press the −− to scroll back.
4. Tap **FWD** or **PGM** to enter a menu. Tap **BACK** to exit a menu.
5. Within a menu:
   Press ⌋⌋ or −− to scroll.
   Tap FWD or PGM to select an item
   Tap BACK to cancel a selection or to go back to the previous menu.

Menu System, Display Menu

Use this menu to display information about the keypanel configuration.

Display Menu, Asgn Type

Displays the talk level 1 assignment types for all keys. Abbreviations for the key assignment types appear in the alphanumeric displays as follows:

PP .....Point-to-Point

PL.....Party Line

IFB .....IFB

IFB SL.....IFB Special List

SL ..... Special List

GPI Out..... GPI Out

ISO..... ISO

UPL..... User Programmable Logic Resources

Display Menu, Chans On

Displays an alpha list, in the Call Waiting Window, of all intercom ports that currently have talk crosspoints closed to this keypanel. Chans On is typically used to locate an open mic or other open audio source that needs to be shut off. The most likely cause is typically a talk key that has been left on at some keypanel. In this case, use the ⌋⌋ and −− keys to scroll through the list of names. You can than press the Call waiting key to ask the person at the other end to turn off their talk key.

Display Menu, Matrix

Displays the intercom system name for all talk level 1 key assignments. In non-trunked intercom systems, the intercom system name is always LOCL (local). In trunked intercom systems, intercom system names are created in AZedit.

Display Menu, Panel ID

Panel ID displays the calculated port number that the keypanel is connected to. The calculation is based on the data group that the keypanel is connected to, along with the Address switch setting on the keypanel. If the Address switch is incorrectly set, the wrong Panel ID will display. Panel ID also displays the port alpha in brackets if the port is not scroll restricted.

Display Menu, Version

Displays the firmware version of the keypanel.

NOTE: For firmware upgrades, contact our intercom system dealer. The PAM-32 firmware can be upgraded from AZedit.

Menu System, Key Assign Menu

Use this menu to assign intercom keys, to adjust listen levels for point-to-point keys and party line keys, and to assign setup pages.

General Procedure to use the Key Assign Menu

1. Clear the Call Waiting Window by tapping the **Call Waiting** button.
2. Tap **Menu**.
3. Tap / / to scroll down to the Key Assign menu.
4. Tap PGM or FWD to enter the menu.

NOTE: If you do not have a trunking intercom system, the next step.

5. Remote key assignment only (trunking system only): If your intercom system is configured for trunking, Matrix displays in the Call Waiting Window. You must select a remote intercom matrix before assigning intercom keys to destinations in that matrix. You do not need to select an intercom matrix if you are assigning keys in your own intercom system. Also, do not select an intercom matrix if you are assigning auto functions or setup pages, or if you are changing listen gains for remote point-to-point keys or remote party line keys. Select a matrix as follows:
    - Press FWD or PGM to access the Matrix.
    - Press / / or − −, to locate the desired Matrix.
    - Press FWD or PGM to select a matrix. Wait may display while the scroll lists for that matrix are loading.

    Pt-toPt should now display in the Call Waiting Window (both for local and remote key assignment). This is the list of available point-to-point key assignments. Press / / or − − to select a different list as follows:

    Pt-to-Pt: Assign a key to listen to another intercom port.

    Key Gain: Adjust the listen gain for a key that already has a point-to-point or party line assignment. (If you select this item, skip the rest of this procedure and go to “Key Assign Menu, Key Gain”.

    Reset Vols: Restore the default listen level for keys that have a point-to-point or party line assignment. (If you select this item, skip the rest of this procedure and go to “Key Assign Menu, Reset Vols).

    Setup Page: Change the setup page assignments. (If you select this item, skip the rest of this procedure and go to “Key Assign Menu, Setup Page”).

6. Tap **PGM** or **FWD** to select a list. In some cases Wait may display while the requested list is uploaded from the intercom system.
   Tap Key should now display.
7. Tap an available intercom key to assign a listen-only key.
   If you assign a key that is listen only, the assignment will appear briefly in upper-case letters, then will change to lower-case letters.

NOTE: when reassigning keys remember to remove any Chime, solo, or Key Group options if they will not be needed for the new key assignment.

Key Assign Menu, Matrix

Matrix appears only for trunked intercom systems. You must select a remote intercom matrix before assigning intercom keys to destinations in that matrix. You do not need to select matrix to assign keys to destinations in your own matrix. You also do not need to select a matrix when assigning an auto-function to a key.

Key Assign Menu, Pt-to-Pt

Assigns a key that listens to another intercom port. Note, some pt-to-pt destinations may be non-keypanel devices that cannot activate listen paths. Therefore, if you want full communication, you may need to assign both talk and listen on the key.

Key Assign Menu, Key Gain

Use this menu item to adjust the listen gains for point-to-point assignments.

1. Press **FWD** or **PGM** to select Key Gain in the Key Assign menu.
   Tap Key displays.
2. Tap the key that you want to adjust.
   The current listen level displays in the Call Waiting Window.
3. Press ⎪⎪ or −− to change the listen level.
4. You may tap additional point-to-point to change their listen levels, or tap **CLR** to quit.

NOTE: you do not need to run Save Cfg after resetting key gains. These settings are stored in the intercom system.

Key Assign Menu, Reset Vols.

Use this menu item to simultaneously reset gains for all point-to-point keys.

1. Press **FWD** or **PGM t**o select Reset Vols in the Key Assign menu.
   Done displays. All key gains are now reset to the default level.
2. Tap **CLR** to quit.

NOTE: You do not need to Save Cfg after resetting key gains. These settings are stored in the intercom setting.

Key Assign Menu, Setup Page

Use this menu item to change the setup page assignments on the PAM-32. One setup page is used for the top row of keys, an another setup page is used for the bottom row.

1. Press FWD or PGM to select Setup Page in the Key Assign menu.
   Page 1 displays.
2. Press ⁻⁻ or -- to select any of the following:
   Page 1: Assign setup page 1 to the PAM-32
   Page 2: Assign setup page 2 to the PAM-32
   Page 3: Assign setup page 3 to the PAM-32
   Page 4: Assign setup page 4 to the PAM-32
   Clear Page: Clear page assignment from the PAM-32

3. Tap PGM
   Tap Key displays.
4. Tap any key in the row where you want to assign the setup page.
   The key assignments for that page should appear in the displays.
5. You can press the ⁻⁻ or -- to select or assign another setup page. Or, tap CLR to exit.

NOTE: You do not need to run Save Cfg to store changes to setup pages. These are stored in the intercom system.

Service Menu

Service Menu, Aux Inputs

Enables or disables the volume controls form the VOL SEL Menu Button for any of the following functions: AUX 1, AUX 2, or ICOM (Intercom).

1. Select Aux Inputs.
2. Tap **PGM**.
   Aux IN 1 displays.
3. To select Aux In 1, Aux In 2, or Intercom press ⁄ ⁄ .
4. Tap **PGM.**
   ◆ *Enabled displays.*
5. To select enable or disabled, press ⁻⁻.
   the arrow indicates the active selection.
6. Tap PGM.
7. Tap CLR to exit when finished.
   The new AUX In assignment is now set.
8. Run Service menu, Save Cfg to store the Aux Inputs setting.

NOTE: To assign the destination of the Aux Inputs, see the Mixing entry for “Service Menu, DSP Func”.

Service Menu, DIM

This item causes the speaker or headphone level to diminish by a specified amount whenever a listen key is activated.

1. Select **DIM**, then tap **PGM**.
   Speaker displays.
2. To select headset, press⁄ ⁄ .
3. Press **PGM**.
   By default, -8dB displays for speaker and 0dB displays for headset. This is the default amount of dimming.
4. Press ⁄ ⁄ to increase the amount of dimming.
   Press −− to decrease the amount of dimming.
5. Tap **CLR** to exit when finished.
   The new dimming level is now set.
6. Run **Service Menu, Save Cfg.** to store the DIM setting

Service Menu, Baud Rate

This item sets the baud rate for the PAM-32.

1. Select Baud, then tap **PGM**.
   Auto Baud displays.

2. Press ⟩⟩ to select any of the following:
Auto Baud: Senses what the Matrix is running, and sets the PAM accordingly.
9600 Baud
76.8 K Baud

NOTE: Run Service Menu, Save Cfg to store the settings.

Service Menu, DSP Func

This item increases the digital signal processing features.

1. Select **DSP Func**, then tap **PGM**.
Filtering displays.
2. Press⟩⟩ or −− to display any of the following items:
Filtering
Gating
Metering
Mixing

Metering

Metering lets you use the Vol. display as an LED bar graph meter to monitor an audio signal for about 1 minute.

1. Tap **PGM**.
Microphone displays
2. Press ⟩⟩ or −− to display any of the following items:
Microphone
Matrix
Aux 1
Aux 2
3. Tap **PGM**.
Meter: Mic displays.
4. Press ⟩⟩ or −− to display any of the following items:
Meter: Mic
Meter: Mtx
Meter: Aux 1
Meter: Aux 2
5. Tap **PGM**.
The Vol. bar graph is now monitoring the selected audio source.
6. Tap **CLR** to exit metering or allow the metering function to time-out after about one minute.

Mixing

Mixing lets you route selected audio signals to the intercom system, to the speaker, or to the left or right headphone when using a headset. By default, the microphone signal is routed to the matrix, and the matrix signal is routed to the speaker and to the left and right headphones.

1. Tap **PGM**.
To Matrix displays.
2. Press ⟩⟩ or −− to display any of the following items:
To Matrix
Speaker
Left Hdst
Right Hdst

3. Tap **PGM**.
   ◆ *Mic or Mic displays. If an arrow displays, this indicates the mic signal is currently being routed to the destination that you selected in step 2*
4. To toggle the selection, press **PGM**.
   You can also press / / or – – to display and toggle any of the following items:
   Mic
   Matrix
   Aux 1
   Aux 2
5. Tap **CLR** to exit when you are finished changing the mixing selections.
6. Run **Service Menu, Save Cfg** to store any mixing changes.

Service Menu, LCP-32

By default, each LCP-32 that you connect to the PAM-32 takes control of level adjustment for the first available group of 16 physical keys that it finds. The LCP-32 adjust keys 1-16, which corresponds to the bottom row of keys on the PAM-32; the second LCP-32 adjusts keys 17-32, and so forth. If you do not want to use an LCP-32 with certain keys, you must program the PAM-32 to skip those keys.

LCP-32 Keys 49-64
LCP-32 Keys 33-48

EKP-32

LCP-32 Keys 17-32
LCP-32 Keys 1-16

PAM-32

For example, you may not want to use LCP's with the PAM-32 but do not want to use them with an EKP-32. In this case, you must turn off LCP usage for keys 1-32 as follows:

1. Select **LCP-32**, then tap **PGM.**
   1-16: Yes displays. This indicates the first connected LCP-32 will attach to keys 1-16.
2. Tap **PGM**.
   1-16: Skip displays. This indicates the first connected LCP-32 will skip keys 1-16 and will attach to the next available row of keys.
3. Tap / / to display 17-32: Yes.
4. Tap **PGM**.
   17-32: Skip displays. This indicates the first connected LCP-32 will skip keys 17-32 and will attache to the next available row of keys.
5. Tap **CLR** to exit.
6. Run **Service Men, Save Cfg** to store the new LCP-32 settings.

Service Menu, Min Volume

This menu item allows the user to set the minimum volume level for both the keypanel speaker and the headset speaker(s). This is the minimum volume leve.l available on the volume control located on the front panel of the PAM-32.

1. Select **Min Volume** from the Service menu, then tap **PGM**.
   ◆*Speaker displays.*
2. Press ⎜⎜ to select either Speaker or Headset.
3. Tap **PGM**.
4. Press ⎜⎜ or −− to increase or decrease the minimum volume level. The range is -24dB to -60dB or full Mute.
5. Tap **PGM**.
6. Tap **CLR** to exit.
7. Run **Service Menu, Save Cfg** to store Min Volume settings.

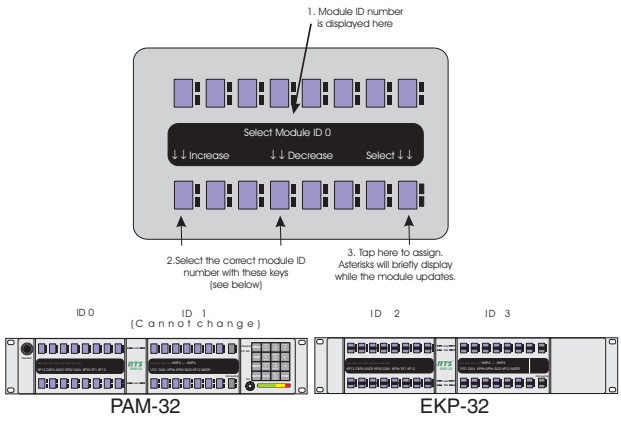
Service Menu, Mod Assign

NOTE: Normally, this is a service adjustment that is required only when replacing a key an display module. It may also be required if for some reason, the key assignments, as displayed in AZedit, appear to be in the wrong positions on the keypanel or expansion panel.

The PAM-32 and the EKP-32 use module ID numbers (Mod ID numbers) to define the address of each key and display module. By default, Mod 1 is always assigned to the right half of the PAM-32 and this never changes, since this module has the keypad and is unique. However, the rest of the modules are identical. When replacing any of these modules, you may have to reset the Mod ID number as follows:

1. Select Mod Assign from the Service menu, then tap PGM.
   Cancel? displays.

   To exit the procedure without making changes, tap PGM.
   All the alphanumeric displays, except Mod 1, will appear as shown below.
2. Assign the Mod IDs as shown. Repeat the procedure for each module.



NOTE: You do not need to run Save Cfg after changing Mod assignments.

Service Menu, Ref Level

Allows the adjustment of the nominal audio output level to the matrix from 0dB to +8dB.

1. Select Outp Level, then tap PGM.
   +8dB displays
   −− decreases the level
   -- increases the level
2. Tap PGM.

3. Tap CLR to exit.
4. Run Service Menu, Reset Cfg to store the Output Level settings.

Service Menu, Reset Cfg

Reset Cfg restores all custom settings to the defaults and erases all stored autodial numbers.

Service Menu, RVON Setup

NOTE: To use the RVON-1 with the PAM-32, the PAM must be at firmware version 1.0.0 or higher.

The RVON-1 card, when shipped has a default IP Address already configured. This must be changed in order for the RVON-1 card to function properly because the pre-configured IP Address may not work with your network.

To set the IP Address, do the following:

1. On the PAM-32, press Menu.
   The top level menu appears.
2. Using the ⟩ ⟩ , scroll to **Service**.
3. Press **PGM**.
   The Service menu appears.
4. Using the ⟩ ⟩ , scroll to **RVON Setup**.
5. Press **PGM**.
   The IP Address menu item appears.
6. Press **PGM**
   The actual IP Address appears.
7. Enter the **first number** in the IP Address.
   This activates the first octet of the IP Address and clears the rest of the IP Address.
8. Press **PGM**.
   This confirms the first octet in the IP Address and moves you to the second octet.

NOTE: Press PGM to skip over any octet that does not need modifications.

9. Repeat steps **7** and **8** until the entire IP Address is entered.
10. Press **PGM**.
    The Netmask menu item appears.

NOTE: Once you have entered the IP Address, you will then enter the Netmask. The Netmask is a string of numbers similar to an IP Address, except that it masks or screens out the network part of an IP Address so that only the host computer part of the address remains (for example, 255.255.255.0).

11. Press **PGM**.
    The actual Netmask appears.
12. Enter the **first number** in the Netmask.
    This activates the first octet of the Netmask and clears the rest of the Netmask.
13. Press **PGM**.
    This confirms the first octet in the Netmask and moves you to the second octet.

NOTE: Press PGM to skip over any octet that does not need modifications.

14. Repeat steps **12** and **13** until the entire Netmask is entered.
15. Press **PGM**.
    The Gateway IP Address menu item appears.

NOTE: Once you have entered the Netmask, you may need to enter the Gateway IP Address. A Gateway is a node (for example, a computer) on a network that serves as an entrance to another network.

16. Press **PGM**.
    The actual Gateway IP Address appears.
17. Enter the **first number** in the Gateway IP Address.
    This activates the first octet of the Gateway IP Address and clears the rest of the address.
18. Press **PGM**.
    This confirms the first octet of the Gateway IP Address and moves you the second octet.

NOTE: Press **PGM** to skip over any octet that does not need modifications.

19. Repeat steps **19** and **20** until the entire Gateway is entered.
20. Press **PGM**.
21. Press **CLR** to exit the menu.
    The changes are now enabled.

Service Menu, Save Cfg

Save Cfg PGM saves custom settings that you have made in the Key Option or Service menus. After customizing settings in Key Option and Service menus, run Save Cfg to store your custom settings in non-volatile memory. This will assure protection of your settings when the keypanel is powered down. To erase all custom settings, run Services Menu, Reset Cfg.

Service Menu, Scr Saver

A screen saver is an animated image that is activated on a display when no user activity has been detected for a certain time.

To set the screen saver delay time, do the following:

1. On the PAM-32, press **Menu**.
   Display appears in the keypanel display.
2. Press⟩⟩ to scroll to service.
3. Press **PGM**.
   Aux inputs appears in the keypanel display.
4. Press ⟩⟩ to scroll to Scr Saver.
5. Press **PGM**.
   Delay appears in the keypanel display.

   NOTE: There are three options to choose from this list: Delay, DSP OFF, and Activate. When DSP Off is selected, the keypanel display turns off (pressing any key will re-activate the display). When Activate is selected, the screen saver is immediately enabled. (pressing any key will re-activate the display). Delay allows you to set a specific amount of time the keypanel is inactive before the screen saver engages.

6. Press **PGM**.
   30 min appears on the keypanel display.

Using ⟩⟩ scroll through the following times to determine how much inactivity on the keypanel must pass before the screen saver is activated.

30 min
1 hr
2 hr
4 hr
6 hr

8 hr
10 hr
12 hr

Service Menu, Test Panel

Test Panel PGM lets you check the operation of all keys and displays.

All alphanumeric displays show a% symbol. Pressing down on any key (except the **Headset/Vol Sel.** key) will cause OK to display. This verifies operation of the key. Tapping on the **Headset/Vol.Sel.** key will cause the display to cycle through the available selections.

If latching is enabled, tapping any intercom key, or the Call waiting key, will cause the corresponding re LED to light. This verifies latching operation and also that each red LED is OK>

Holing any key will cause the corresponding green LED to light. This verifies operation of the green LEDs.

Tapping any keypad button (except CLR) will cause the keypad button name to appear in the Call Waiting Window. This verifies operation of the keypad buttons.

Tap **CLR** to quit.